

REMARKS

The Examiner has rejected claims 1 through 3, 11 through 16, 23 through 25, 33 through 38 and 45 through 47 under 35 U.S.C. §102(e). The Examiner has also rejected claims 4 through 8, 10 and 26 through 32 under 35 U.S.C. §103(a). However, the Examiner has indicated allowable subject matter in claims 17 through 22 and 39 through 44. After the consideration of this response, claims 1 through 47 will all remain pending. In view of the following remarks and the above amendment, the Applicants respectfully submit to the Examiner to reconsider the pending rejections.

Claim Amendment

Claims have been amended to correct formalities to avoid any future rejections under 35 U.S.C. §112, Second Paragraph for being indefinite for failing to particularly point out the invention. The amendment has been made to correct misspelling of the claim language, and no new matter has been introduced.

The Section 102(e) Rejections

The Examiner has rejected claims 1 through 3, 11 through 16, 23 through 25, 33 through 38 and 45 through 47 under 35 U.S.C. §102(e) as allegedly anticipated by the Myers et al. reference. According to the Examiner, every element of independent claims 1, 23, 45, 46 and 47 is disclosed by the prior art disclosure in the Myers et al. reference.

In contrast to the above Examiner's characterization of the Myers et al. reference, newly amended independent claim 1 explicitly recites "assigning distinct communication signals in a

substantially mirror-image pattern respectively to the four sectors at each of the base stations so that a common one of the distinct communication signals is assigned to at least a pair of adjacent ones of the sectors of the corresponding two adjacent ones of the cells” and “transmitting within a predetermined directionality the assigned distinct communication signals....” Similarly, newly amended independent claim 23 explicitly recites “four directional antennas located around each of said base stations for receiving and transmitting the distinct communication signals within a predetermined directionality for said base stations, said four directional antennas collectively defining a cell for a corresponding one of said base stations, each of said four directional antennas singularly defining a sector for the corresponding cell, at least a pair of adjacent ones of said four directional antennas of the corresponding two adjacent ones of said base stations utilizing a common one of the distinct communication signals in a substantially mirror-image pattern.”

In summary, newly amended independent claims 1 and 23 explicitly recite a common patentable feature. That is, in newly amended independent claims 1 and 23, “at least a pair of adjacent ones of the sectors of the corresponding two adjacent ones of the cells” and “at least a pair of adjacent ones of said four directional antennas of the corresponding two adjacent ones of said base stations” share “a common one of the distinct communication signals” in “a substantially mirror-image pattern,” and the common “communication signals” are being transmitted “within a predetermined directionality” between a particular “base station” and a particular “subscriber station.” Thus, the interference is desirably minimized for the common “communication signals” between the adjacent base stations.

Similarly, among newly amended independent claims 45, 46 and 47, “a common one of the four distinct communication signals” is also shared “in a substantially mirror-image pattern.” In the most relevant portion, newly amended independent claim 45 explicitly recites “each of said directional antennas having a limited directionality for singularly defining an equal portion of the

cell as a sector, ..., a pair of adjacent ones of said directional antennas of the corresponding two adjacent sectors of said base stations utilizing a common one of the distinct communication signals in a substantially mirror-image pattern.” Similarly, newly amended independent claim 46 explicitly recites “each of said directional antennas having a limited directionality for singularly defining an equal portion of the cell as a sector, ..., the plurality of said adjacent ones of said directional antennas of the corresponding adjacent ones of said base stations utilizing a common one of the distinct communication signals in a substantially mirror-image pattern.” Lastly, newly amended independent claim 47 explicitly recites “each of said directional antennas having a limited directionality for singularly defining an equal portion of the cell as a sector, ..., the plurality of said adjacent ones of said directional antennas of the corresponding adjacent ones of said base stations utilizing a common one of the distinct combinations of the frequencies and polarized waves in a substantially mirror-image pattern.”

In newly amended independent claims 45, 46 and 47, “said adjacent ones of said directional antennas of the corresponding adjacent ones of said base stations” share “a common one of the distinct communication signals in a substantially mirror-image pattern,” and the “directional antennas” have “a limited directionality” between a particular “base station” and a particular “subscriber station.” Thus, the interference is desirable minimized for the common “communication signals” between the adjacent base stations. In view of the above patentable features, the cited prior art reference will be reviewed.

The Myers et al. reference discloses a point-to-multipoint communication system in which a base station broadcasts the same frequency band signals over multiple sectors of given node. Each base station includes a plurality of channel receivers and corresponding antennas for each of a plurality of sectors. The antennas of the same base station cover a corresponding non-overlapping sector area. A pair of the adjacently located base stations has partially overlapping

or adjacent sectors. For example, as shown in Fig 1, the adjacent broadcast base stations 11a and 12a respectively have a right or east sector and a left or west sector, and these two sectors are also adjacently located. The panel antennas 31 through 34 of each of the base stations 11a, 12a and 13a broadcast “the same frequency band.” (lines 53 through 56, column 3). However, the antenna 34 of the base station 11a broadcasts a horizontally polarized signal in its right or east sector while the antenna 32 of the base station 12a broadcasts a vertically polarized signal in its left or west sector. Although the Myers et al. reference also discloses that “the upstream has dedicated subsector frequencies,” the “upstream frequencies [merely] alternate [only within or] about the [same] node” (lines 17 through 24, column 7). In other words, the prior art discloses only a certain pattern within the node. However, the prior art merely discloses a distinct polarized signal that is different from each other between the two adjacent or contiguous sectors of the two adjacent base stations.

As already discussed above with respect to the patentable features in newly amended independent claims 1, 23, 45, 46 and 47, the common communication signal is utilized or assigned in “a substantially mirror-image pattern” between or among the neighboring sectors or antennas of the adjacently located base stations, and the communication signal is transmitted and received “within a predetermined directionality” or “in a limited directionality.” Despite the Examiner’s characterization in the Office Action, the Myers et al. reference fails to anticipate the above “mirror-image pattern” of the common communication signal as explicitly recited in newly amended independent claims 1, 23, 45, 46 and 47.

Dependent claims 2 through 22 and 24 through 44 ultimately depend from newly amended independent claim 1 or 23 and incorporate the above discussed patentable features of newly amended independent claim 1 or 23. Based upon dependency and the above discussed patentable distinction, Applicants respectfully submit that the rejection of claims 1 through 47

under 35 U.S.C. §102(e) as allegedly anticipated by the Myers et al. reference should be withdrawn.

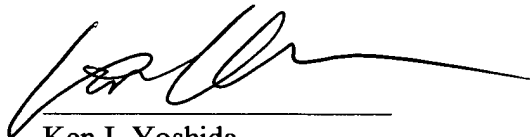
The Myers et al. reference also fails to disclose, teach or suggest the above “mirror-image pattern” of the common communication signal among the neighboring sector of the adjacently located base stations as explicitly recited in newly amended independent claims 1, 23, 45, 46 and 47. For this reason, it is further respectfully submitted that the Myers et al. reference should not be applicable at least by itself to the current invention as explicitly recited in newly amended independent claims 1, 23, 45, 46 and 47 under 35 U.S.C. §103.

Conclusion

In view of the above remarks and amendments, Applicant respectfully submits that all of the pending claims are in condition for allowance and respectfully request a favorable Office Action so indicating.

Respectfully submitted,

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